

Applicant's Name _____

POWER PLANT INSTALLATIONS

Reference FAA Order 8110.37, Appendix 2, Chart B

DER APPLICATION EVALUATION TECHNICAL CRITERIA

Delegated Functions & Authorized Areas

- Applicant indicates requested area(s) of delegation and attaches supporting data to establish technical expertise and experience.
- Advisor (**Adv**) evaluates requested area(s), recommends area(s) to Evaluation Panel (**EP**). (Y=YES; N=NO) and provides rationale.
- Evaluation Panel evaluates area(s) recommended by Advisor, marks **EP** column. (Y=YES; N=NO) and provides rationale.

DER APPLICANT USE ONLY			FAA USE ONLY		DER APPLICANT USE ONLY			FAA USE ONLY	
Requested Areas	ENGINE INSTALLATION		Adv	EP	Requested Areas	ICE PROTECTION		Adv	EP
	1A	Airplane Turbine Engine				6A	Airplane Turbine Engine		
	1B	Airplane Piston Engine				6B	Airplane Piston Engine		
	1C	Rotorcraft Turbine Engine				6C	Rotorcraft Turbine Engine		
	1D	Rotorcraft Piston Engine				6D	Rotorcraft Piston Engine		
	1E	Auxiliary Power Unit (APU)				6E	Auxiliary Power Unit (APU)		
	1F	Special (Specify)				6F	Special (Specify)		
Requested Areas	FUEL & OIL		Adv	EP	Requested Areas	COOLING		Adv	EP
	2A	Airplane Turbine Engine				7A	Airplane Turbine Engine		
	2B	Airplane Piston Engine				7B	Airplane Piston Engine		
	2C	Rotorcraft Turbine Engine				7C	Rotorcraft Turbine Engine		
	2D	Rotorcraft Piston Engine				7D	Rotorcraft Piston Engine		
	2E	Auxiliary Power Unit (APU)				7E	Auxiliary Power Unit (APU)		
	2F	Special (Specify)				7F	Special (Specify)		
Requested Areas	INDUCTION / EXHAUST SYS.		Adv	EP	Requested Areas	ENGINE PERFORMANCE/OPERATIONS		Adv	EP
	3A	Airplane Turbine Engine				8A	Airplane Turbine Engine		
	3B	Airplane Piston Engine				8B	Airplane Piston Engine		
	3C	Rotorcraft Turbine Engine				8C	Rotorcraft Turbine Engine		
	3D	Rotorcraft Piston Engine				8D	Rotorcraft Piston Engine		
	3E	Auxiliary Power Unit (APU)				8E	Auxiliary Power Unit (APU)		
	3F	Special (Specify)				8F	Special (Specify)		
Requested Areas	THRUST REVERSERS		Adv	EP	Requested Areas	INDICATING SYSTEMS		Adv	EP
	4A	Airplane Turbine Engine				9A	Airplane Turbine Engine		
	4B	Airplane Piston Engine				9B	Airplane Piston Engine		
	4F	Special (Specify)				9C	Rotorcraft Turbine Engine		
Requested Areas	FIRE PROTECTION		Adv	EP		9D	Rotorcraft Piston Engine		
	5A	Airplane Turbine Engine				9E	Auxiliary Power Unit (APU)		
	5B	Airplane Piston Engine				9F	Special (Specify)		
	5C	Rotorcraft Turbine Engine			Requested Areas	LIGHTNING / HIRF PROTECTION		Adv	EP
	5D	Rotorcraft Piston Engine				10A	Airplane Turbine Engine		
	5E	Auxiliary Power Unit (APU)				10B	Airplane Piston Engine		
	5F	Special (Specify)				10C	Rotorcraft Turbine Engine		
						10D	Rotorcraft Piston Engine		
						10E	Auxiliary Power Unit (APU)		
						10F	Special (Specify)		

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Requested Areas	SOFTWARE	Adv	EP
	11A Airplane Turbine Engine		
	11B Airplane Piston Engine		
	11C Rotorcraft Turbine Engine		
	11D Rotorcraft Piston Engine		
	11E Auxiliary Power Unit (APU)		
	11F Special (Specify)		

Additional requirements for a DER with a delegation of Software Approval:

Circle One

- Yes No (a) Comprehensive familiarity with, and understanding of, RTCA Document DO-178 (applicable revision), Software Considerations in Airborne Systems and Equipment Certification.
- Yes No (b) Familiarity with the systems safety assessment process, specifically, those portions which establish the software criticality levels.
- Yes No (c) A demonstrated knowledge of the rationale for, and the significance of, each stage in the software development process, as well as its supporting standards, procedures, and documentation. The DER should be able to identify the critical aspects and contents of each of the documents mentioned in DO-178.
- Yes No (d) Experience gained from participation in some technically responsible capacity over a complete software development program life cycle. This qualification may be satisfied by an aggregate over several different software development programs.
- Yes No (e) Experience interacting with all phases of software development and testing processes addressed by DO-178, including utilization of the associated configuration and quality control procedures. This experience should include significant responsible involvement in several of those phases. When assessing an applicant's capabilities for making a knowledgeable finding of compliance, experience obtained in the requirements development or testing phases may, for example, be weighted more heavily than that obtained in the detail design or coding phases.
- Yes No (f) Fluency in at least one high-level and one assembly-level programming language and familiarity with typical support software used in a software development process. Familiarity with typical software tools available to facilitate the development, documentation, and consistency-checking processes is highly desirable.
- Yes No (g) Demonstrated knowledge of the sources of software anomalies, the relative merits of the types of testing procedures which are available to protect against them, and the characteristics of a thorough test program.
- Yes No (h) Familiarity with the aspects of computing peculiar to real-time avionics systems, such as the use of interrupts, multi-tasking, software reentrancy, etc. This should include an appreciation of the types of analysis and testing necessary to ensure the integrity of these mechanisms.
- Yes No (i) An understanding of the techniques which may be employed to reduce software criticality levels, such as system architecture, multi-version programming, and partitioning. This should include the ability to assess the adequacy of a proposed technique relative to the integrity credit desired.
- Yes No (j) Knowledge of hardware characteristics such as input/output schemes, memory organization and multi-port access, communication-bus protocols, and processor architecture, all of which have an impact on the software interface and the potential for the creation of anomalies.

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Requested Areas	CONTROL SYSTEM -ELECTRONIC	Adv	EP	Requested Areas	PROPELLER	Adv	EP
	12A Airplane Turbine Engine				16A Airplane Turbine Engine		
	12B Airplane Piston Engine				16B Airplane Piston Engine		
	12C Rotorcraft Turbine Engine				16F Special (Specify)		
	12D Rotorcraft Piston Engine			Requested Areas	DRIVE SYSTEM	Adv	EP
	12E Auxiliary Power Unit (APU)				17A Airplane Turbine Engine		
	12F Special (Specify)				17B Airplane Piston Engine		
Requested Areas	CONTROL SYSTEM - MECHANICAL	Adv	EP		17C Rotorcraft Turbine Engine		
	13A Airplane Turbine Engine				17D Rotorcraft Piston Engine		
	13B Airplane Piston Engine				17F Special (Specify)		
	13C Rotorcraft Turbine Engine			Requested Areas	TRANSMISSIONS	Adv	EP
	13D Rotorcraft Piston Engine				18C Rotorcraft Turbine Engine		
	13E Auxiliary Power Unit (APU)				18D Rotorcraft Piston Engine		
	13F Special (Specify)				18F Special (Specify)		
Requested Areas	EMISSIONS	Adv	EP	Requested Areas	SAFETY ANALYSIS	Adv	EP
	14A Airplane Turbine Engine				19A Airplane Turbine Engine		
	14B Airplane Piston Engine				19B Airplane Piston Engine		
	14C Rotorcraft Turbine Engine				19C Rotorcraft Turbine Engine		
	14D Rotorcraft Piston Engine				19D Rotorcraft Piston Engine		
	14F Special (Specify)				19E Auxiliary Power Unit (APU)		
Requested Areas	VIBRATION - ENGINE, PROP., OR DRIVE SYSTEM	Adv	EP		19F Special (Specify)		
	15A Airplane Turbine Engine			Requested Areas	SERVICE DOCUMENTS	Adv	EP
	15B Airplane Piston Engine				20A Airplane Turbine Engine		
	15C Rotorcraft Turbine Engine				20B Airplane Piston Engine		
	15D Rotorcraft Piston Engine				20C Rotorcraft Turbine Engine		
	15F Special (Specify)				20D Rotorcraft Piston Engine		
					20E Auxiliary Power Unit (APU)		
					20F Special (Specify)		